

What is claimed is:

1. An optoelectronic hybrid integrated module comprising:

an optical device for converting an optical signal into an electric signal and vice versa;

5 an input/output IC for drive-controlling the optical device; and

a transparent base material having electric wiring and light permeability; wherein

the optical device and the input/output IC are flip-  
10 chip mounted on the transparent base material, and light inputting/outputting between the optical device and an outside is carried out due to the light permeability of the transparent base material.

2. The optoelectronic hybrid integrated module, as claimed in claim 1, wherein the electric wiring of the transparent base material electrically connects the optical device and the input/output IC, and also serves as an 5 electromagnetic shield for the optical device and the input/output IC.

3. The optoelectronic hybrid integrated module, as claimed in claim 1, wherein the optical device is configured as a light emitting device which converts an electric signal into an optical signal and outputs it, and 5 the input/output IC is configured as a driver IC which

outputs an electric signal to the optical device.

4. The optoelectronic hybrid integrated module, as claimed in claim 1, wherein the optical device is configured as a light receiving device which converts an optical signal into an electric signal, and the 5 input/output IC is configured as an electric amplifier IC which amplifies an electric signal from the light receiving device.

5. The optoelectronic hybrid integrated module, as claimed in claim 1, wherein the transparent base material is formed of a transparent plate transmitting a light, and the transparent plate is made of a material having high 5 permeability to a wavelength of the optical device.

6. The optoelectronic hybrid integrated module, as claimed in claim 1, wherein the transparent base material is formed of a flexible sheet transmitting a light, and the flexible sheet is made of a material having high 5 permeability to a wavelength of the optical device.

7. The optoelectronic hybrid integrated module, as claimed in claim 1, wherein the transparent base material includes light coupling means for improving a light coupling efficiency at a position facing the optical device.

8. The optoelectronic hybrid integrated module, as claimed in claim 7, wherein the light coupling means is integrally formed with the transparent base material.

9. The optoelectronic hybrid integrated module, as claimed in claim 7, wherein the transparent base material includes an optical axis converter which converts a direction of the optical axis with reference to the light 5 coupling means.

10. The optoelectronic hybrid integrated module, as claimed in claim 1, wherein the optical device and the input/output IC have an interposer which is a holder and a heat spreader.

11. The optoelectronic hybrid integrated module, as claimed in claim 1, wherein the transparent base material is fixed to a holding frame within which electric wiring is incorporated.

12. A light input/output apparatus comprising an optoelectronic hybrid integrated module and a logic LSI, wherein

the optoelectronic hybrid integrated module includes:  
5 an optical device for converting an optical signal into an electric signal and vice versa; an input/output IC for drive-controlling the optical device; and a transparent base material having electric wiring and light permeability;

10 the optical device and the input/output IC are flip-chip mounted on the transparent base material, light inputting/outputting between the optical device

and an outside is carried out due to the light permeability of the transparent base material,

15 the logic LSI controls an electric signal input into or output from the optoelectronic hybrid integrated module, and

the optoelectronic hybrid integrated module and the logic LSI are mounted on a same substrate.